

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) An attenuation compensation system for use in a base station having a mast head unit remotely connected to ground-based equipment by a cable, whereby a signal sent from said ground-based equipment to said mast head unit experiences attenuation, the system comprising:

at said ground-based equipment (300):

    a first power level detector (402) coupled to a transmit signal line for outputting a first power level signal;

    a compensation attenuator (401) coupled to the transmit signal line;

    at least one controller for controlling the compensation attenuator (401); and

at said mast head unit (320):

    a second power level detector (403) coupled to the transmit signal line for outputting a second power level signal, said second power level detector having means for transmitting the second power level signal to said ground-based equipment; said second power level signal being based upon the amount of said attenuation;

    whereby said controller (301) compares said first and second power level signals and controls the compensation attenuator (401) accordingly.

2. (Original) The attenuation compensation system as recited in claim 1

further comprising a second compensation attenuator (404) coupled to a receive signal line.

3. (Original) The attenuation compensation system as recited in claim 2 wherein the controller (311) controls the second compensation attenuator (404).

4. (Original) The attenuation compensation system as recited in claim 1 further comprising a power and control cable (350) connected between the mast head unit and the ground-based equipment for carrying control signals between the first and second power level detectors (402, 403).

5. (Original) The attenuation compensation system as recited in claim 2 further comprising a first diplexer (307) located in the ground-based equipment and coupled to the receive signal line, the transmit signal and the cable.

6. (Original) The attenuation compensation system as recited in claim 1 wherein the ground-based equipment further comprises a cell size attenuator (308) coupled to the transmit signal line.

7. (Original) The attenuation compensation system as recited in claim 1 wherein the ground-based equipment further comprises a transmit pre-amplifier coupled (309) to the transmit signal line.

8. (Original) The attenuation compensation system as recited in claim 2 further comprising a second diplexer (301) located in the mast head unit and

coupled to the receive signal line, the transmit signal line and the cable.

9. (Original) The attenuation compensation system as recited in claim 1 wherein the mast head unit further comprises a high power amplifier (304) coupled to the transmit signal line.

10. (Original) The attenuation compensation system as recited in claim 2 wherein the mast head unit further comprises a low noise amplifier (302) coupled to the receive signal line.

11. (Original) The attenuation compensation system as recited in claim 2 wherein the mast head unit further comprises an antenna diplexer (303) coupled to an antenna (360), the transmit signal line, and the receive signal line.

12. (Original) A method of compensating for cable loss in a wireless communication system having a high power amplifier (304) located proximate an antenna, a pre-amplifier (309) receiving a transmit signal located at a remote location, and a cable (340) connected between the amplifiers, the method comprising the steps of:

detecting a first power level of the transmit signal at an output of the pre-amplifier (309);

detecting a second power level of the transmit signal at an input of the high power amplifier (304);

feeding back the second power level from said proximate location to said remote location;

comparing, at said remote location, the first and second power levels to determine a loss in the cable;

adjusting a compensation attenuator (401) coupled to the pre-amplifier based upon the loss.

13. (Currently amended) The method of compensating for cable loss as recited in claim 12 wherein a gain of the cable compensation attenuator (401) is increased decreased if the loss is below a lower limit.

14. (Currently amended) The method of compensating for cable loss as recited in claim 12 further comprising the steps of:

comparing the loss to upper and lower limits;  
maintaining the gain of the cable compensation if the loss is between the limits;

increasing decreasing the gain of the cable compensation if the loss is below the lower limit; and,

decreasing increasing the gain of the cable compensation if the loss is above the upper limit.

15. (Original) The method of compensating for cable loss as recited in claim 12 further comprising adjusting the gain of a second cable compensation attenuator (404) coupled to a receive signal based upon the loss.

16. (Original) An attenuation compensation system for use in a base station having at least one cable extending between first and second locations, the system comprising:

power level detection means for determining transmit signal power level at said first location and at said second location;

**Applicant:** Bird et al.  
**Application No.:** 09/890,391

feed back means for feeding back the transmit signal power level from said second location to said first location;

comparing means at the first location for comparing power levels from the power level detection means and for determining a loss between the two locations;

attenuating means at the first location for controlling the power level of the transmit signal; and,

control means at the first location responsive to the comparing means for controlling the attenuating means.